



WBS 6.4

Liquid Argon Calorimeter System: Introduction

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Mgmt Updates Since CDR

- US ATLAS HL-LHC LAr deliverables and management team (ie. CAMs) are:
 - WBS 6.4.x.1 FE Components (Tim Andeen)
 - Columbia (J. Parsons), SMU (J. Ye), UT Austin (T. Andeen)
 - WBS 6.4.x.2 FEB2 Board (John Parsons)
 - Columbia (J. Parsons)
 - WBS 6.4.x.3 BE Electronics (Andy Haas)
 - Stony Brook (J. Hobbs), U Arizona (K. Johns)
 - WBS 6.4.x.4 Syst. Integration (Marc-Andre Pleier)
 - BNL (H. Ma)
 - WBS 6.4.x.5 PA/Shaper (Hong Ma)
 - BNL (H. Ma), U Penn (M. Newcomer)
 - System engineer (Hucheng Chen)
- Each CAM has been working on Task List for their deliverable
 - Versions iterated after comments from Winnie/Chuck
 - With I/P from Hucheng, JP sent comments to synchronize across deliverables
 - Today we will review the status of each task list

NSF

DOE



Common Nomenclature

- The “**Production**” version of each deliverable should refer to the version put into large-scale production for final use in the ATLAS experiment
- If you have a small-scale production as the first step after the PRR, to validate the final design before launching full production, call it “**Pre-production**”
- The “**Prototype**” version should be that used in the FEC system test or BEC system test, as appropriate
(ie. the Prototype is the final version BEFORE the PRR takes place, and this version is not expected to ever be used in the ATLAS experiment)
- Earlier versions of deliverables can be referred to as:
 - “**Pre-prototype**”, if they have full functionality but are not yet considered the final prototype, or
 - “**Test**” (if they do not yet have full functionality)

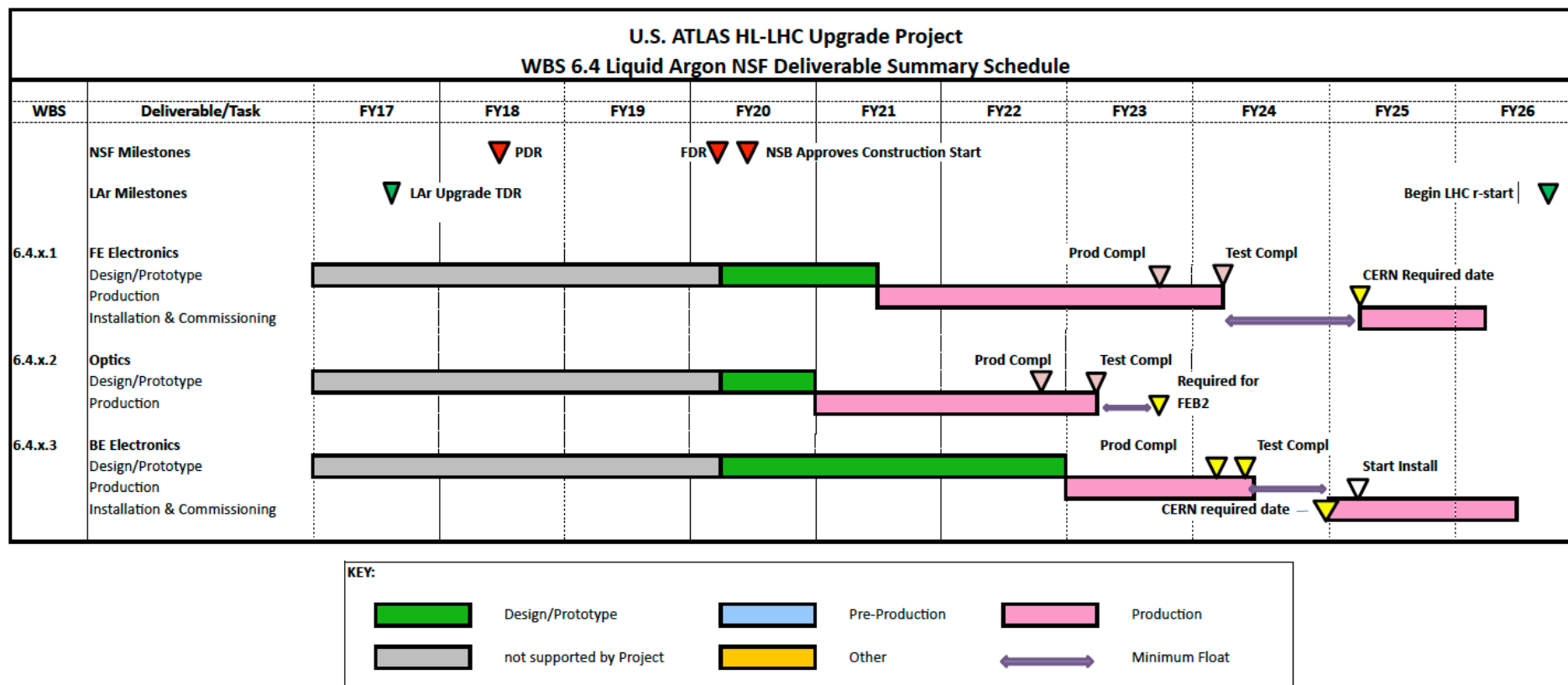


Common Dates

- For the NSF, the Prototype and Production campaigns, as defined previously, will constitute the “Construction Project” of the MREFC
 - Therefore, significant Prototype orders cannot be placed before at least ~April 2020
 - To keep things aligned, we will follow same restriction for PA/shaper chip (DOE funded)
- We plan shared ASIC prototype run for all four 65 nm chips (PA/shaper, ADC, Serializer, VCSEL Driver), and same strategy for production run
 - Assume prototype ASIC run submitted on **4/1/20**
 - Then aim for **ASIC PRRs on 11/30/20** (quite aggressive)
- FEB PRR follows about 7 months about ASIC PRR
 - Aim for **FEB2 PRR on 6/30/21**, after completion of FEC Test at BNL
 - FEB2 Preproduction completed by **6/30/22**
 - FEB2 production from 1/1/23 through **8/31/24** (50% complete by end 2023)
 - Will try advance by a few months to maintain float (and working with ATLAS to delay EMB install.)
- BE production starts about 1 year later than FE
 - Aim for **BE PRR on 10/20/22**, after completion of BEC Test at BNL
 - BE production finished about same time as FE, with **BE finished on 6/30/24**



NSF Schedule & Milestones



- US schedule developed to be consistent with LAr milestones presented in Scoping Document
- Planning includes 6-12 months of schedule float



LAr Electronics Schedule (Fig. 26 from SD)

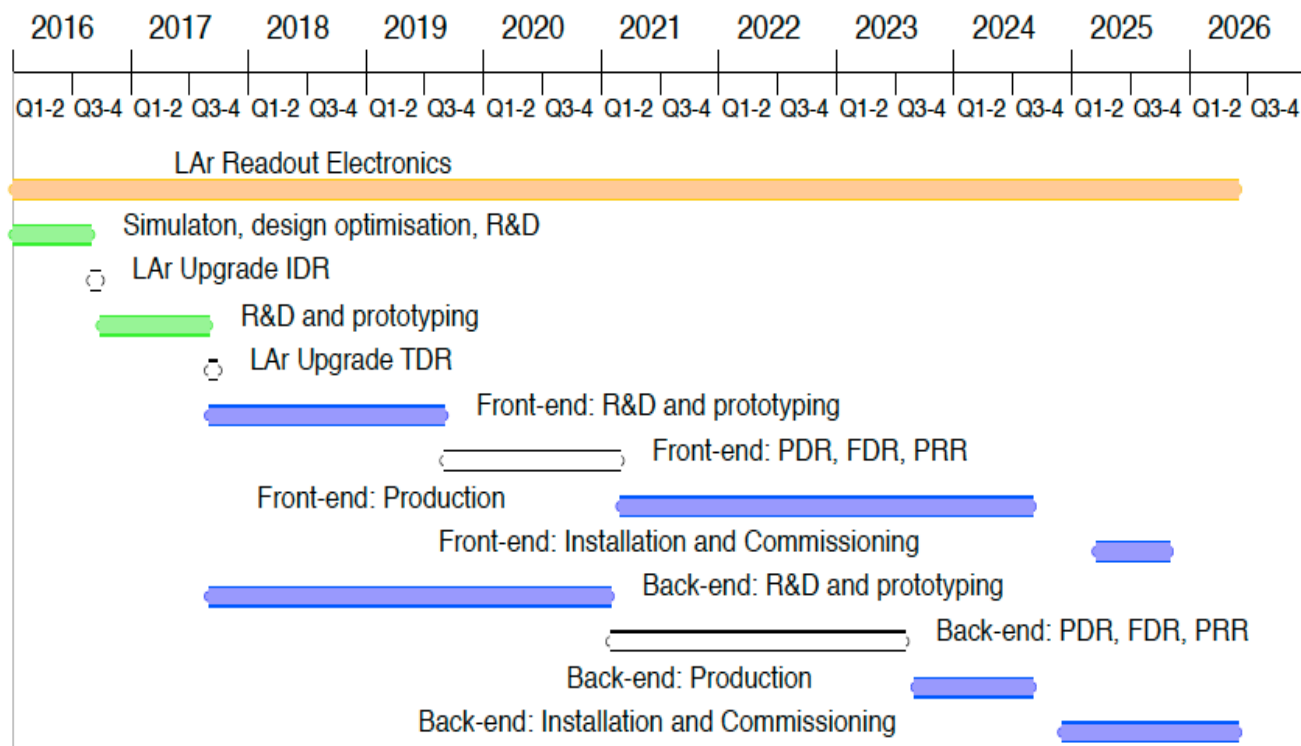
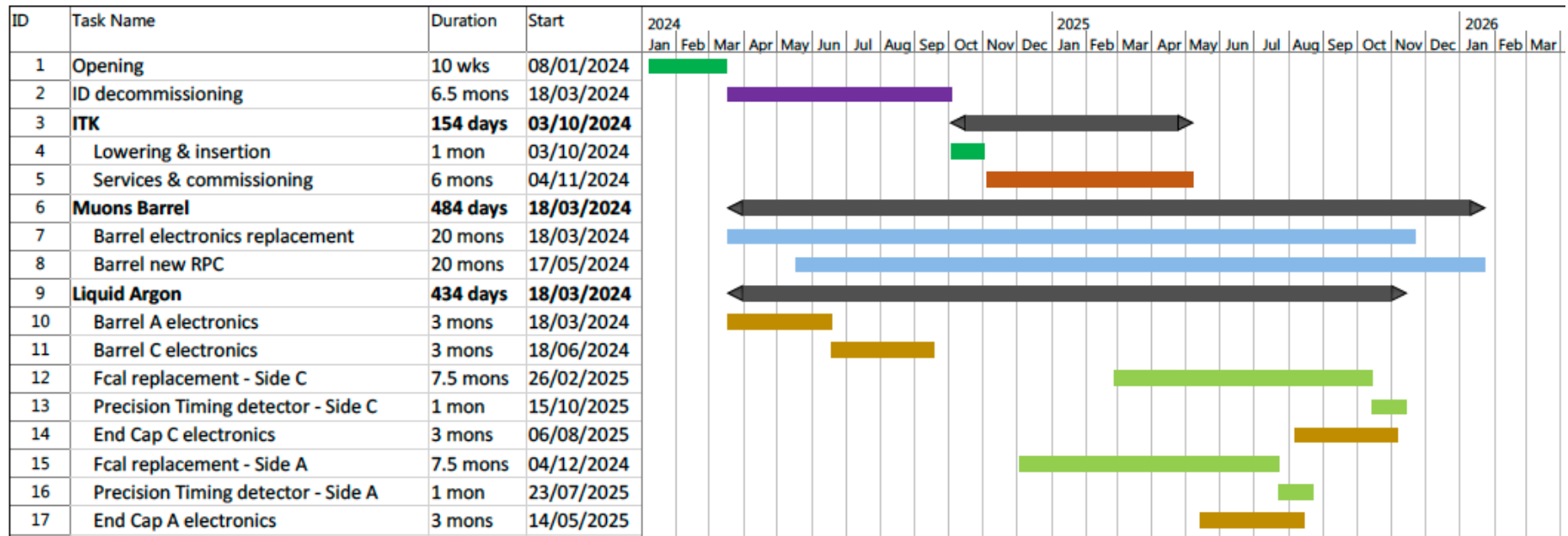


Figure 26. Overview of the time-line and milestones for the main system components of the front-end and back-end systems of the LAr readout electronics upgrade.



Overall Installation Schedule (Fig. 66 from SD)





Next Steps

- US ATLAS management will scrub each of the task lists for all subsystems
 - LAr scrubbing mtg scheduled for Mon. June 20 starting at 3 pm
(Andy not available then so there will have to be a second mtg for him)
 - Each CAM will lead the scrubbers through his task list
 - Expect questions about order of tasks, durations of tasks, internal and external dependencies, etc.
- Clearly there is very little time before scrubbing, so we must act urgently
 - In addition to iterating your own task list, I would like to ask each CAM to take a look at ONE additional task list and provide feedback:

Tim – PA/shaper	Hong – FE Components
Marc-Andre – BE Electronics	Andy – System Integration
 - Schedule for this:
 - Monday - CAMs post latest task list to today's Indico page by end of day
 - Wednesday – internal reviewers post comments to today's Indico page by end of day
 - Friday – CAMs post “final” (before scrubbing) task list to today's Indico page by end of day



Backup Slides